

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed on May 1, 2008 (Paper No. 20080416). Upon entry of this response, claims 1-22 are pending in the application. In this response, claims 21-22 have been amended. Applicant respectfully requests that the amendments being filed herewith be entered and request reconsideration and allowance of all pending claims.

I. Claim Objections

Claim 22 has been objected to for various informalities. Specifically, claim 22 has been objected to because "Claim 22 appears to be dependent upon claim 21, and not upon the method of claim 1..." In response to this objection, claim 22 has been amended. In view of the amendment, Applicant respectfully submits that the objection has been overcome and requests that the objection be withdrawn.

II. Claim Rejections under 35 U.S.C. §101

Claims 21-22 have been rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. In response to this rejection, claims 21-22 have been amended. Accordingly, Applicant respectfully submits that the amendments render the rejection moot, and requests that the rejection be withdrawn.

III. Claim Rejections under 35 U.S.C. §102(b)

Claims 1-22 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by *Douglas et al.* (U.S. Patent No. 5,530,809, hereafter "*Douglas*"). Applicant respectfully traverses this rejection as applied to pending claims 1-22.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP § 2131 *quoting* *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed.

Cir. 1987). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(b). In the present case, not every feature of the amended claims is represented in the *Douglas* reference.

A. Independent Claim 1

Applicant's claim 1 provides as follows (emphasis added):

In a multi-node network comprising a plurality of distributed switching nodes, a method implemented in at least one of the plurality of distributed switching nodes for routing information entering the at least one of the plurality of distributed switching nodes over a first channel to one of a plurality of other channels, the method comprising:

***obtaining priority information for the information;
ascertaining a remaining communication length for the
information for each of the plurality of other channels;***

***determining a current demand for each of the plurality of other
channels; and***

***routing the information entering at the first channel to one of the
plurality of other channels based upon an evaluation that considers
a combination of the obtained priority information, the ascertained
communication length for each of the plurality of other channels,
and the current demand for each of the plurality of other channels.***

Applicant respectfully submits that independent claim 1 is allowable for at least the reason that *Douglas* does not disclose, teach, or suggest at least the features recited and emphasized above in claim 1.

The Office Action alleges that *Douglas* discloses all of the features of claim 1 at column 108, lines 9-42, 46-56, and 57-65 (Office Action at page 3). Applicant respectfully objects to this vague rejection of Applicant's claim features. In particular, the MPEP points out in § 707.07(d) that "Where a claim is refused for any reason relating to the merits thereof it should be 'rejected' and the ground of rejection fully and clearly stated..." The Office Action copied the Applicant's claim language and indicated that each element was taught in cited sections of the *Douglas* reference without further clarification. As such, the Office Action does not fully and clearly state the grounds for rejection of claim 1. A broad-brush statement that each of the multiple limitations are taught somewhere in the *Douglas* reference denies the Applicant a full

opportunity to address and refute the rejection of Applicant's claim. In other words, without a specific identification of how the *Douglas* reference anticipated each of the specific limitations, it is not possible to fully respond to the Office Action rejection given that the true basis for the rejection is not ascertainable.

1. Obtaining priority information for the information ...

The Office Action alleges "Douglas disclosed: *obtaining priority information for the information*; column 108, lines 9-42" (Office Action at page 3). Specifically, in the cited section *Douglas* discloses:

The node control circuit 1004 receives selected signals from and generates various control signals in response. For example, the node control circuit 1004 receives binary-encoded HEIGHT (2:0) signals which identify the level of the data router node 22(i,j,k) and generates DECR HGT decremented height signals which are binary encoded to identify the next lower level in the data router 15. As described above, as the data router nodes 22(i,j,k) transfer the data router message packets 30 down the data router 15, the nodes decrement the value contained in the header field 40, which identifies the level. In that case, the DECR HGT decremented height signals are used to form the contents of the header field 40, as described below.

In addition, the node control circuit 1004 receives the AFD (i,j) all-fall-down (i,j) signal from the control network 14 and generates, in response thereto, an AFD MODE all-fall-down mode signal which controls operations in the child interface modules 1001(i) and the parent interface modules 1002(i) as described below. The node control circuit also generates an EN enable signal, which enables the data router node 22(i,j,k) to operate, and P3:P0/C3:C0 DIS parent interface module/child interface module disable signals that disable selected ones of the child interface modules 1001(i) and parent interface modules 1002(i).

The node control circuit 1004 also generates a set of CHILD MAP signals which are coupled to the child interface modules 1001(i) and parent interface modules 1002(i) and are used to force the association of each of the modules 1001(i) and 1002(i) with a particular the child interface module 1001(i) during while the AFD MODE all-fall-down mode signal is asserted. This forces the switch 103 to couple data router message packets 30 received from a particular source, a particular parent or child, to a particular child interface module 1001(i).

(*Douglas* at col. 108, lines 9-42). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that receiving corresponds to "obtaining" as recited in

claim 1. Assuming that this understanding is correct, even though *Douglas* discloses receiving HEIGHT signals identifying the level of the data router node and AFD signals for controlling operation of child interface modules, *Douglas* does not teach or suggest that the HEIGHT and AFD signals are "priority information for the information" as recited in claim 1. Thus, *Douglas* does not disclose or suggest "obtaining priority information for the information" as recited in claim 1.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

2. *Ascertaining a remaining communication length for the information for each of the plurality of other channels ...*

The Office Action alleges "Douglas disclosed... *ascertaining a remaining communication length for the information for each of the plurality of other channels*; column 108, lines 47-56" (Office Action at page 3). Specifically, in the cited section *Douglas* discloses:

Each child interface module 1001(i) includes an input child circuit, generally identified by reference numeral 1006(i), and an output child circuit generally identified by reference numeral 1007(i). The input child circuit 1006(i) transmits a C"i" IN FLY child "i" input fly signal to the child connected thereto, and receives C"i" IN FLIT child "i" input flit signals, comprising four signals received in parallel. The C"i" IN FLIT signals received at successive ticks of the NODE CLK signal represent four-bit flits of the data router message packet 30 from the child connected thereto.

(*Douglas* at col. 108, lines 47-56). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that receiving corresponds to "ascertaining" as recited in claim 1. Assuming that this understanding is correct, even though *Douglas* discloses receiving C"i" IN FLIT signals which represent four-bit flits of the data router message packet, *Douglas* does not teach or suggest "ascertaining a remaining communication length for the information for each of the plurality of other channels" as recited in claim 1.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

3. Determining a current demand for each of the plurality of other channels ...

The Office Action alleges "Douglas disclosed... *determining a current demand for each of the plurality of other channels*; ... column 108, lines 46-56" (Office Action at page 3). Specifically, in the cited section *Douglas* discloses:

Finally, the node control circuit 1004 also transmits selected error signals, represented by an OUT ERROR signal on FIG. 11A, to the diagnostic network 16 if it detects the presence of selected error conditions.

Each child interface module 1001(i) includes an input child circuit, generally identified by reference numeral 1006(i), and an output child circuit generally identified by reference numeral 1007(i). The input child circuit 1006(i) transmits a Cⁱ IN FLY child "i" input fly signal to the child connected thereto, and receives Cⁱ IN FLIT child "i" input flit signals, comprising four signals received in parallel. The Cⁱ IN FLIT signals received at successive ticks of the NODE CLK signal represent four-bit flits of the data router message packet 30 from the child connected thereto.

(*Douglas* at col. 108, lines 43-56). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that detecting corresponds to "determining" as recited in claim 1. Assuming that this understanding is correct, even though *Douglas* discloses detecting the presence of selected error conditions, *Douglas* does not teach or suggest "determining a current demand for each of the plurality of other channels" as recited in claim 1.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

4. Routing the information entering at the first channel to one of the plurality of other channels based upon an evaluation.

The Office Action alleges "Douglas disclosed... *routing the information entering at the first channel to one of the plurality of other channels based upon an evaluation that considers a*

combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels. Column 108, lines 57-65" (Office Action at page 3). Specifically, in the cited section *Douglas* discloses:

The input child circuit 1006(i), in response to the message address portion 31 of the message packet determines whether it is to be transmitted up the tree or down the tree defining the data router 15. If the input child circuit 1006(i) determines that the data router message packet 30 is to be transmitted up the tree, it enables the switch 1003 to direct the successive flits comprising the packet 30 to a parent interface module 1002(i) selected by the switch 1003 at random. On the other hand, if the input child circuit 1006(i) determines that the data router message packet 30 is to be transmitted down the tree, it identifies one of the child interface modules 1001(i) to which the switch 1003 is to direct the packet 30. The switch 1003 then directs the successive flits of the message packet 30 to the output child circuit 1007(i) of the identified child interface module 1001(i).

(*Douglas* at col. 108, lines 47-56). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that determining whether a message packet is transmitted up or down the data router tree corresponds to "routing the information" as recited in claim 1. Assuming that this understanding is correct, even though *Douglas* discloses determining whether a message packet is transmitted up or down the data router tree in response to the message address portion of the message packet, *Douglas* does not teach or suggest "routing the information ... based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels" as recited in claim 1.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

5. Summary

For at least the reasons described above, *Douglas* fails to disclose, teach or suggest all of the features recited in claim 1. Therefore, Applicant respectfully submits that the rejection of claim 1 be withdrawn.

B. Dependent Claims 2-16

Since independent claim 1 is allowable, Applicant respectfully submits that claims 2-16 are allowable for at least the reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir.1988). Therefore, Applicant respectfully requests that the rejection of claims 2-16 be withdrawn.

C. Independent Claim 17

Applicant's claim 17 provides as follows (emphasis added):

In a multi-node network comprising a plurality of distributed switching nodes, a method implemented in at least one of the plurality of distributed switching nodes for routing information out of the at least one of the plurality of distributed switching nodes over a first channel from one of a plurality of other channels, the method comprising:

obtaining priority information for the information entering the node for each of the plurality of other channels;

ascertaining a remaining communication length for the information entering the node for each of the plurality of other channels;

determining a current demand of the first channel; and

routing the information entering at one of the other channels to the first channel based upon an evaluation that considers a combination of the obtained priority information for each of the plurality of other channels, the ascertained communication length for each of the plurality of other channels, and the current demand for the first channel.

Applicant respectfully submits that independent claim 17 is allowable for at least the reason that *Douglas* does not disclose, teach, or suggest at least the features recited and emphasized above in claim 17.

To begin, the Office Action has grouped independent claims 1, 17 and 21 together in a common rejection (Office Action at page 3). As stated in MPEP § 707.07(d) under

IMPROPERLY EXPRESSED REJECTIONS, "A plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group." Applicant respectfully submits that claim 17 is not similar to claims 1 and 21. Specifically, the claimed features of claim 17 are different than the claimed features of either claim 1 or claim 21.

1. *Obtaining priority information for the information entering the node for each of the plurality of other channels ...*

The Office Action appears to allege that *Douglas* discloses "obtaining priority information for the information entering the node for each of the plurality of other channels" at column 108, lines 9-42 (Office Action at page 3). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that receiving corresponds to "obtaining" as recited in claim 17. Assuming that this understanding is correct, even though *Douglas* discloses receiving HEIGHT signals identifying the level of the data router node and AFD signals for controlling operation of child interface modules, *Douglas* does not teach or suggest that the HEIGHT and AFD signals are "priority information for the information entering the node for each of the plurality of other channels" as recited in claim 17. Thus, *Douglas* does not disclose or suggest "obtaining priority information for the information entering the node for each of the plurality of other channels" as recited in claim 17.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

2. *Ascertaining a remaining communication length for the information entering the node for each of the plurality of other channels ...*

The Office Action appears to allege that *Douglas* discloses "ascertaining a remaining communication length for the information entering the node for each of the plurality of other channels" at column 108, lines 47-56 (Office Action at page 3). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that receiving

corresponds to "ascertaining" as recited in claim 17. Assuming that this understanding is correct, even though *Douglas* discloses receiving "C" IN FLIT signals which represent four-bit flits of the data router message packet, *Douglas* does not teach or suggest "ascertaining a remaining communication length for the information entering the node for each of the plurality of other channels" as recited in claim 17.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

3. *Determining a current demand of the first channel ...*

The Office Action appears to allege that *Douglas* discloses "determining a current demand of the first channel" at column 108, lines 46-56 (Office Action at page 3). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that detecting corresponds to "determining" as recited in claim 17. Assuming that this understanding is correct, even though *Douglas* discloses detecting the presence of selected error conditions, *Douglas* does not teach or suggest "determining a current demand of the first channel" as recited in claim 17.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

4. *Routing the information entering at the first channel to one of the plurality of other channels based upon an evaluation.*

The Office Action appears to allege that *Douglas* discloses "routing the information entering at the first channel to one of the plurality of other channels based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels" at column 108, lines 57-65 (Office Action at page 3). Although the

Office Action has not explained the rejection, it appears that the Office Action is alleging that determining whether a message packet is transmitted up or down the data router tree corresponds to "routing the information" as recited in claim 17. Assuming that this understanding is correct, even though *Douglas* discloses determining whether a message packet is transmitted up or down the data router tree in response to the message address portion of the message packet, *Douglas* does not teach or suggest "routing the information ... based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels" as recited in claim 1.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

5. Summary

For at least the reasons described above, *Douglas* fails to disclose, teach or suggest all of the features recited in claim 17. Therefore, Applicant respectfully submits that the rejection of claim 17 be withdrawn.

D. Dependent Claims 18-20

Since independent claim 17 is allowable, Applicant respectfully submits that claims 18-20 are allowable for at least the reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir.1988). Therefore, Applicant respectfully requests that the rejection of claims 18-20 be withdrawn.

E. Independent Claim 21

Applicant's amended claim 21 provides as follows (emphasis added):

A computer readable medium encoded with instructions executable by a processing element node for routing information entering the node over a first channel to one of a plurality of other channels in a multi-node network comprising a plurality of distributed switching nodes, the instructions

comprising:

logic configured to obtain priority information for the information;

logic configured to ascertain a remaining communication length for the information for each of the plurality of other channels;

logic configured to determine a current demand for each of the plurality of other channels; and

logic configured to route the information entering at the first channel to one of the other channels based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels.

Applicant respectfully submits that independent claim 21 is allowable for at least the reason that *Douglas* does not disclose, teach, or suggest at least the features recited and emphasized above in claim 21.

To begin, the Office Action has grouped independent claims 1, 17 and 21 together in a common rejection (Office Action at page 3). As stated in MPEP § 707.07(d) under IMPROPERLY EXPRESSED REJECTIONS, "A plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group." Applicant respectfully submits that claim 21 is not similar to claims 1 and 17. Specifically, claim 21 is a computer readable medium claim, while claims 1 and 17 are method claims.

1. *Logic configured to obtain priority information for the information ...*

The Office Action alleges "*Douglas disclosed: obtaining priority information for the information; column 108, lines 9-42*" (Office Action at page 3). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that receive corresponds to "obtain" as recited in claim 21. Assuming that this understanding is correct, even though *Douglas* discloses receiving HEIGHT signals identifying the level of the data router node and AFD signals for controlling operation of child interface modules, *Douglas* does not teach or suggest that the HEIGHT and AFD signals are "priority information for the information" as recited in claim 21. Thus, *Douglas* does not disclose or suggest "obtain[ing] priority information

for the information", much less "logic configured to obtain priority information for the information" as recited in claim 21.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

2. *Logic configured to ascertain a remaining communication length for the information for each of the plurality of other channels ...*

The Office Action alleges "Douglas disclosed... *ascertaining a remaining communication length for the information for each of the plurality of other channels*; column 108, lines 47-56" (Office Action at page 3). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that receive corresponds to "ascertain" as recited in claim 21. Assuming that this understanding is correct, even though *Douglas* discloses receiving C"IN FLIT signals which represent four-bit flits of the data router message packet, *Douglas* does not teach or suggest "ascertain[ing] a remaining communication length for the information for each of the plurality of other channels", much less "logic configured to ascertain a remaining communication length for the information for each of the plurality of other channels" as recited in claim 21.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

3. *Logic configured to determine a current demand for each of the plurality of other channels ...*

The Office Action alleges "Douglas disclosed... *determining a current demand for each of the plurality of other channels*; ... column 108, lines 46-56" (Office Action at page 3). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that detect corresponds to "determine" as recited in claim 21. Assuming that this understanding is correct, even though *Douglas* discloses detecting the presence of selected

error conditions, *Douglas* does not teach or suggest "determin[ing] a current demand for each of the plurality of other channels", much less "logic configured to determine a current demand for each of the plurality of other channels" as recited in claim 21.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

4. ***Logic configured to route the information entering at the first channel to one of the other channels based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels.***

The Office Action alleges "*Douglas* disclosed... routing the information entering at the first channel to one of the plurality of other channels based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels. Column 108, lines 57-65" (Office Action at page 3). Although the Office Action has not explained the rejection, it appears that the Office Action is alleging that determine whether a message packet is transmitted up or down the data router tree corresponds to "route the information" as recited in claim 21. Assuming that this understanding is correct, even though *Douglas* discloses determining whether a message packet is transmitted up or down the data router tree in response to the message address portion of the message packet, *Douglas* does not teach or suggest "route the information ... based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels", much less "logic configured to route the information ... based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication

length for each of the plurality of other channels, and the current demand for each of the plurality of other channels” as recited in claim 21.

If Applicant's understanding of the Office Action application of the cited section of *Douglas* is incorrect, Applicant respectfully requests a full and clear statement developing the application of the *Douglas* reference be provided to assist in moving prosecution forward.

5. Summary

For at least the reasons described above, *Douglas* fails to disclose, teach or suggest all of the features recited in claim 21. Therefore, Applicant respectfully submits that the rejection of claim 21 be withdrawn.

F. Dependent Claims 22

Since independent claim 21 is allowable, Applicant respectfully submits that claim 22 is allowable for at least the reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir.1988). Therefore, Applicant respectfully requests that the rejection of claim 22 be withdrawn.

IV. Amendments to the Specification

The specification has been amended to provide antecedent support for amended claims 21-22. Applicant respectfully submits that the amendment adds no new matter to the application as the information was well known to one skilled in the art.

CONCLUSION

Applicant respectfully requests that all outstanding objections and rejections be withdrawn and that this application and presently pending claims 1-22 be allowed to issue. Any statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. If the Examiner has any questions or comments regarding Applicant's response, the Examiner is encouraged to telephone Applicant's undersigned counsel.

Respectfully submitted,

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